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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/052,010	01/17/2002	Saket Chadda	SFI 1017	9154

29906 7590 01/25/2006

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EXAMINER

RACHUBA, MAURINA T

ART UNIT	PAPER NUMBER
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3723

DATE MAILED: 01/25/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/052,010

Applicant(s)

CHADDA ET AL.

Examiner

M Rachuba

Art Unit

3723

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 10 November 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,3-29 and 31-46 is/are pending in the application.
- 4a) Of the above claim(s) 6,7,20-27 and 38-46 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3-5,8-19,28,29 and 31-37 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Election/Restrictions***

1. Applicant's election without traverse of species 2 in Paper No. 14 is acknowledged. Claims 6, 7, 20-27 and 38-46 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected species, there being no allowable generic or linking claim.

### ***Claim Objections***

2. Claim 36 is objected to because of the following informalities: it should depend from claim 35, and not claim 29. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

3. Applicant's amendment has overcome the rejection under 35 USC 112.

### ***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1, 3, 5, 8, 10, 11, 13-16, 18, 19, 28, 29, 32, 34 and 37 are rejected under 35 U.S.C. 102(b) as being anticipated by Kondo et al US006117775A (previously cited by applicant in the IDS filed 17 January 2002), as set forth in the Office action mailed 15 August 2005. Further, '775 teaches applying a chemical to the copper oxide film to make it soluble, polishing the film, applying more chemical to further make the film soluble, then planarizing the copper layer.

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 4, 9, 12, 17, 31, and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kondo et al, '775, as set forth in the Office action mailed 15 August 2005. Further, '775 does not disclose that the non-orbital motion is the linear motion of a belt-type polishing pad. The examiner takes Official notice that one of ordinary skill in the art would recognize that linear belt type polishing pads are old and well known in the art, and would have found it obvious to have provided '775 with a linear polishing tool, known to take up less area than a rotary tool.

8. Claims 35 and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kondo et al, '775 in view of Tsai et al, US 20030022501A1. '775 does not disclose the polishing step performed with different polishing heads, or the polishing heads on a carousel. '501, figures 1 and 3, teaches polishing a substrate on different polishing heads, the heads mounted on a carousel. It would have been obvious to one of ordinary skill to have provided '775 with the carousel mounted heads for the different processes as taught by '501, to obtain different polishing effects on the wafer.

***Response to Arguments***

9. Applicant's arguments filed 10 November 2005 have been fully considered but they are not persuasive. Applicant argues that Kondo does not teach pretreating a

copper layer to substantially remove a film that is more resistant to polishing than copper. The examiner respectfully disagrees. Kondo, column 6, lines 14- column 7 line 5, discloses pretreating a copper oxide layer to make it water soluble, then polishing the copper layer. This clearly meets the language of claim 1. Applicant's amendment has overcome the rejections based on Zhong and Tsai et al under 35 USC 102.

### ***Conclusion***

10. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

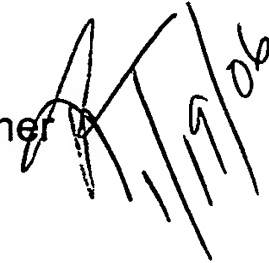
11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to M Rachuba whose telephone number is 571-272-4493. The examiner can normally be reached on Monday-Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Hail can be reached on 571-272-4485. The fax phone number for the organization where this application or proceeding is assigned is **571-273-8300**.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

M Rachuba  
Primary Examiner  
Art Unit 3723

A handwritten signature in black ink, followed by the date 11/19/06 written vertically.